GenCore version 4.5

OM nucleic - nucleic search, using sw model

Run on: June 24, 1999, 01:22:20 ; Search time 67.43 Seconds
(without alignments)
993.248 Million cell updates/sec

Title: US-09-205-015-3
Perfect score: 356
Sequence: 1 tcgaccctctggaacctatc.....atctggagctgaagaaattc 356

Scoring table: IDENTITY_NUC

Searched: 240622 seqs, 94065609 residues

Database : N_Geneseq_34:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.		Score	% Query Match	Length	DB	ID	Description
c	1	34.2	9.6	1873	1	Q24517	Murine osteogenic
c	2	34.2	9.6	1873	1	Q53153	Sequence encoding
c	3	34.2	9.6	1873	1	Q58051	Mouse osteogenic p
c	4	34.2	9.6	1873	1	Q67312	Murine OP-1. Morph
c	5	34.2	9.6	1873	1	Q45117	Murine OP-1. Maint
c	6	34.2	9.6	1873	1	Q65392	Osteogenic protein
c	7	34.2	9.6	1873	1	Q45163	Murine OP-1. Use o
c	8	33.6	9.4	2944	1	N80253	Insert of lambda 3
c	9	33.6	9.4	2132	1	Q06594	Clone ECE3-1 seque
c	10	33.6	9.4	2876	1	T97303	Human plasminogen
c	11	32.6	9.2	1873	1	Q28736	Murine osteogenic
c	12	32.6	9.2	1873	1	Q38945	Mouse osteogenic p
c	13	32.6	9.2	1873	1	Q38734	Murine pro-OP-1. M
c	14	32.6	9.2	1873	1	Q38858	Morphogen mOP1 cod
c	15	32.6	9.2	1873	1	Q56199	mOP1 cDNA. Morphog
c	16	32.6	9.2	1873	1	Q56232	mOP1 cDNA. Use mor
c	17	32.6	9.2	1873	1	Q72704	mOP1-PP prepro for
c	18	32.6	9.2	1872	1	Q90623	Murine osteogenic
c	19	32.6	9.2	1873	1	T02598	mOP-1 cDNA. Antibo
c	20	32.6	9.2	1872	1	T33442	Mouse osteogenic p
c	21	32.6	9.2	1873	1	T97879	cDNA encoding mous
c	22	32.6	9.2	1873	1	V10346	Mouse OP-1 cDNA. T
c	23	32.6	9.2	1873	1	V15216	Mouse osteogenic p
c	24	32.6	9.2	1873	1	V19534	Mouse osteogenic p
c	25	32.6	9.2	1873	1	V32584	Mouse osteogenic p
	26	29.6	8.3	10380	1	T67164	Human alpha-N-acet
	27	29.2	8.2	879	1	V55259	Chimeric receptor
	28	29	8.1	833	1	Q21546	3' terminal portio
c	29	29	8.1	574	1	V02668	Human HLA-B gene i
	30	28.8	8.1	4887	1	Q41290	Ubiquitin-specific
c	31	28.8	8.1	1514	1	Q68267	Maize 2-acyltransf
c	32	28.2	7.9	13144	1	Q13288	P.denitrificans ge
	33	28.2	7.9	10952	1	T33345	Human CAPL gene. S
	34	28.2	7.9	3189	1	T75087	DNA encoding antig
	35	28.2	7.9	10952	1	V41162	Human CAPL genee.
	36	28	7.9	372	1	Q60002	Human brain Expres
	37	28	7.9	5416	1	V07381	Neisseria meningit
c	38	27.8	7.8	1013	1	N50475	Sequence of brain
	39	27.6	7.8	988	1	Q79079	Human flt-3 ligand
c	40	27.6	7.8	3266	1	T12476	Tumour suppressor
	41	27.6	7.8	465	1	V44537	Human flt-3 recept
	42	27.6	7.8	449	1	V44521	Human flt-3 recept
	43	27.6	7.8	439	1	V44522	Human flt-3 recept
	44	27.6	7.8	461	1	V44523	Human flt-3 recept
	45	27.6	7.8	457	1	V44524	Human flt-3 recept

ALIGNMENTS

RESULT 1
Q24517/c
ID Q24517 standard; cDNA; 1873 BP.
AC Q24517;
DT 09-NOV-1992 (first entry)
DE Murine osteogenic protein mOP1.
KW Mouse; embryo; mOP1-PP; osteogenesis; prepro protein; ss.
OS Mus.
FH Key Location/Qualifiers
FT cds 104. .1396
FT /*tag= a
FT /product= mOP1-PP
FT /note= "mOP1 (cDNA)"
PN WO9207004-A.
PD 30-APR-1992.
PF 18-OCT-1991; U07654.
PR 18-OCT-1990; US-600024.
PA (CREA-) CREATIVE BIOMOLECULES INC.
PI Kuberasampath T, Oppermann H, Ozkaynak E, Rueger DC;
DR WPI; 92-167101/20.
DR P-PSDB; R23832.
PT Osteogenic polypeptides capable of inducing endochondral bone
PT formation - useful for bone and cartilage repair, treatment of
PT osteoarthritis and correction of skeletal and dental
PT abnormalities
PS Claim 1; Page 34-36; 54pp; English.
CC A hybridisation probe specific to the C-terminus of the DNA encoding
CC human OP1 was prepared (base pairs 1034-1354 of Q24518). The
CC labelled probe was used to screen ca. 700,000 phages of an oligo (dT)
CC primed 17.5 days p.c. mouse embryo 5' stretch cDNA gt10 library. DNA
CC was prepared from the 5 recombinant phages which were purified by 3
CC rounds of screening. The DNA was subcloned and sequenced. Two
CC different DNA sequences were identified: mOP1 and mOP2. (mOP2 is
CC not described in this patent specification). The mOP1 DNA codes for
CC a prepro-protein.
SQ Sequence 1873 BP; 435 A; 590 C; 499 G; 349 T;

Query Match 9.6%; Score 34.2; DB 1; Length 1873;
Best Local Similarity 58.3%; Pred. No. 0.15;
Matches 60; Conservative 0; Mismatches 43; Indels 0; Gaps 0;

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Qy     61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
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Db   1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy    121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
          | | ||||||  || || |||||  ||| | |||  |   |||
Db   1375 GACCACCATGTTTCTGTACTTCTTCAGGTCGACATTAGAGCTG 1333
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RESULT 2
Q53153/c
ID Q53153 standard; cDNA; 1873 BP.
AC Q53153;
DT 06-JUN-1994 (first entry)
DE Sequence encoding murine osteogenic protein OP1.
KW Osteogenic protein; bone; cartilage; matrix; osteoarthritis;
KW repair; vascularisation; mineralisation; differentiation; ss.
OS Mus musculus.
FH Key Location/Qualifiers
FT cds 104. .1393
FT /*tag= a
FT /product= Osteogenic protein OP1.
PN US5266683-A.
PD 30-NOV-1993.

PF 08-APR-1988; 179406.
PR 08-APR-1988; US-179406.
PR 15-AUG-1988; US-232630.
PR 23-FEB-1989; US-315342.
PR 17-OCT-1989; US-422613.
PR 17-OCT-1989; US-422699.
PR 22-FEB-1990; US-483913.
PR 20-AUG-1990; US-569920.
PR 07-SEP-1990; US-579865.
PR 18-OCT-1990; US-599543.
PR 18-OCT-1990; US-600024.
PA 04-DEC-1990; US-621849.
PA 04-DEC-1990; US-621988.
PA 22-FEB-1991; US-660162.
PA 20-DEC-1991; US-810560.
PA 28-JAN-1992; US-827052.
PA 21-FEB-1992; US-841646.
PI Kuberasampath T, Oppermann H, Ozkaynak E, Pang RHL;
PI Rueger DC;
DR WPI; 93-395405/49.
DR P-PSDB; R44757.
PT New pure mammalian osteogenic proteins - induce cartilage and
PT endochondral bone formation when in association with a matrix
PS Claim 15; Columns 131-136; 128pp; English.
CC The osteogenic protein when in association with a matrix can induce
CC at the locus of an implant the full development cascade of
CC endochondral bone formation including vascularisation,
CC mineralisation and bone marrow differentiation.The osteogenic
CC protein can also be used to repair both bone and cartilage in the
CC treatment of osteoarthritis. This sequence encodes the pre-pro
CC form of the protein.
SQ Sequence 1873 BP; 435 A; 587 C; 502 G; 349 T;

Query Match 9.6%; Score 34.2; DB 1; Length 1873;
Best Local Similarity 58.3%; Pred. No. 0.15;
Matches 60; Conservative 0; Mismatches 43; Indels 0; Gaps 0;

Qy 61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
|| |||| | | ||| || |||||| | || || | || ||| | |
Db 1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy 121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
| | |||||| || || ||||| ||| | ||| | |||
Db 1375 GACCACCATGTTTCTGTACTTCTTCAGGTCGACATTAGAGCTG 1333

RESULT 3
Q58051/c
ID Q58051 standard; cDNA; 1873 BP.
AC Q58051;
DT 25-AUG-1994 (first entry)
DE Mouse osteogenic protein mOP1 cDNA.
KW mouse osteogenic protein; mOP1; murine; morphogen;
KW infant food formulation; tissue morphogenesis; tissue development;
KW bone growth; morphogen-enriched nutritional product; ss.
OS Muridae.
FH Key Location/Qualifiers
FT cds 104. .1393
FT /*tag= a
FT /function= osteogenic_protein
FT /note= "MOP1 (cDNA)"
PN WO9403075-A.
PD 17-FEB-1994.
PF 29-JUL-1993; U07190.
PR 31-JUL-1992; US-923780.
PR 31-JUL-1992; US-922813.
PR 16-SEP-1992; US-946235.
PR 04-MAR-1993; US-029335.
PR 31-MAR-1993; US-040510.
PA (CREA-) CREATIVE BIOMOLECULES INC.
PI Jones WK, Kuberasampath T, Oppermann H, Ozkaynak E;
PI Rueger DC, Tucker RF, Cohen CM, Pang RHL;
DR WPI; 94-065304/08.
DR P-PSDB; R46743.
PT Morphogen enriched dietary compositions and infant formula -
PT capable of enhancing tissue morphogenesis, development and
PT viability, e.g. in infants, aged individuals and metabolic
PT disorders, e.g. anorexia nervosa, etc
PS Disclosure and Claims 25-26; Page 115-117; 160pp; English.
CC Murine osteogenic protein mOP1 and proteins having at least 70%
CC homology with it are preferred morphogens for inclusion in new
CC morphogen-enriched nutritional formulations. The formulations
CC are dietary compositions suitable for people at risk for tissue
CC damage due to protein energy malnutrition or to altered metabolism
CC function and infant formulations to enhance tissue development in
CC an infant or juvenile.
SQ Sequence 1873 BP; 435 A; 587 C; 502 G; 349 T;

Query Match 9.6%; Score 34.2; DB 1; Length 1873;
Best Local Similarity 58.3%; Pred. No. 0.15;
Matches 60; Conservative 0; Mismatches 43; Indels 0; Gaps 0;

Qy 61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
|| |||| | | ||| || |||||| | || || | || ||| | |
Db 1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy 121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
| | |||||| || || ||||| ||| | ||| | |||
Db 1375 GACCACCATGTTTCTGTACTTCTTCAGGTCGACATTAGAGCTG 1333

RESULT 4
Q67312/c
ID Q67312 standard; DNA; 1873 BP.
AC Q67312;
DT 11-OCT-1994 (first entry)
DE Murine OP-1.
KW OP-1; OP-2; CBMP2; Vgl(fx); Vgr(fx); DPP(fx);
KW GDF-1(fx); 60A(fx); BMP3(fx); BMP5(fx); BMP6(fx);
KW tooth socket; alveolus; osteogenic protein; morphogen;
KW morphogenic protein; periodontal tissue; regeneration;
KW tooth implant; integration; inhibition; ss.
OS Mus musculus.
FH Key Location/Qualifiers
FT cds 104. .1396
FT /*tag= a
FT /label= OP-1
PN WO9406399-A.
PD 31-MAR-1994.
PF 15-SEP-1993; U08742.
PR 15-SEP-1992; US-945285.
PR 04-MAR-1993; US-029335.
PR 31-MAR-1993; US-040510.
PA (CREA-) CREATIVE BIOMOLECULES INC.
PI Cohen CM, Kuberasampath T, Oppermann H, Ozkaynak E;
PI Pang RHL, Rueger DC, Smart JE;
DR WPI; 94-118107/14.
DR P-PSDB; R57972.
PT Morphogen-induced periodontal tissue regeneration - used in
PT integrating as implanted tooth in tooth socket or to inhibit
PT tissue loss associated with periodontal disease or injury
PS Claim 28-29; Page 91-94; 132pp; English.
CC Morphogens comprising an amino acid sequence sharing at least
CC 70% homology with OP-1, OP-2, CBMP2, Vgl(fx), Vgr(fx), DPP(fx),
CC GDF-1(fx), 60A(fx) and at least 80% homology with BMP3(fx),
CC BMP5(fx) and BMP6(fx) are useful for integrating an implanted
CC tooth in a tooth socket and for inhibiting tissue loss associated
CC with periodontal disease or injury.
SQ Sequence 1873 BP; 435 A; 587 C; 502 G; 349 T;

Query Match 9.6%; Score 34.2; DB 1; Length 1873;
Best Local Similarity 58.3%; Pred. No. 0.15;
Matches 60; Conservative 0; Mismatches 43; Indels 0; Gaps 0;

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Qy      61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
           || ||||  | |  |||   ||  ||||||  | ||   || | || |||      |  |
Db    1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy     121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
           | | ||||||  || || |||||  ||| | |||  |   |||
Db    1375 GACCACCATGTTTCTGTACTTCTTCAGGTCGACATTAGAGCTG 1333


RESULT   5
Q45117/c
ID   Q45117 standard; cDNA; 1873 BP.
AC   Q45117;
DT   11-OCT-1994  (first entry)
DE   Murine OP-1.
KW   OP-1; OP-2; CBMP2; Vgl(fx); Vgr(fx); DPP(fx);
KW   GDF-1(fx); 60A(fx); BMP3(fx); BMP5(fx); BMP6(fx);
KW   osteogenic protein; morphogen; morphogenic protein;
KW   gastrointestinal tract; luminal lining; epithelial cell;
KW   proliferation; ulcer; lesion; inflammation; regeneration;
KW   tissue; ss.
OS   Mus musculus.
FH   Key             Location/Qualifiers
FT   cds             104. .1396
FT                   /*tag= a
FT                   /label= OP-1
PN   WO9406420-A.
PD   31-MAR-1994.
PF   15-SEP-1993; U08885.
PR   15-SEP-1992; US-945286.
PR   04-MAR-1993; US-029335.
PR   31-MAR-1993; US-040510.
PA   (CREA-) CREATIVE BIOMOLECULES INC.
PI   Charette MF,  Cohen CM,  Kuberasampath T,  Oppermann H;
PI   Ozkaynak E, Pang RHL,  Rueger DC,  Smart JE;
DR   WPI; 94-118121/14.
DR   P-PSDB; R50199.
PT   Maintaining integrity of gastrointestinal lining using a
PT   morphogen (stimulant) - for treating or preventing ulceration,
PT   also to inhibit endothelial cell proliferation and reduce side
PT   effects of cancer therapy.
PS   Claim 35-36; Page 106-109; 151pp; English.
CC   Morphogens comprising an amino acid sequence sharing at least
CC   70% homology with OP-1, OP-2, CBMP2, BMP3(fx), Vgl(fx), Vgr(fx),
CC   DPP(fx), GDF-1(fx), 60A(fx) and at least 80% homology with
CC   BMP5(fx) and BMP6(fx) are useful for maintaining the integrity of
CC   the gastrointestinal tract luminal lining in a mammal, including
CC   (1) limiting epithelial cell proliferation, (2) inhibiting ulcerative
CC   lesion formation, (3) inhibiting inflammation normally associated
CC   with ulcerative diseases, and/or (4) stimulating the repair of
CC   ulcerative lesions and the regeneration of the luminal tissue.
SQ   Sequence   1873 BP;    435 A;    587 C;    502 G;    349 T;


  Query Match             9.6%;  Score 34.2;  DB 1;  Length 1873;
  Best Local Similarity   58.3%;  Pred. No. 0.15;
  Matches   60;  Conservative    0;  Mismatches   43;  Indels    0;  Gaps    0;

Qy      61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
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Db    1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy     121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
           | | ||||||  || || |||||  ||| | |||  |   |||
Db    1375 GACCACCATGTTTCTGTACTTCTTCAGGTCGACATTAGAGCTG 1333


RESULT   6
Q65392/c
ID   Q65392 standard; cDNA; 1873 BP.
AC   Q65392;
DT   15-OCT-1994  (first entry)
DE   Osteogenic protein mOP1-PP.
KW   Morphogenic protein; mOP-1-PP; OP-1; mOP1; hOP-1; tissue morphogenesis;
KW   osteogenic protein; ss.
OS   Mus sp.
FH   Key             Location/Qualifiers
FT   cds             104. .1396
FT                   /*tag= a
PN   WO9410203-A.
PD   11-MAY-1994.
PF   02-NOV-1993; U10520.
PR   03-NOV-1992; US-971091.
PR   04-MAR-1993; US-029335.
PR   31-MAR-1993; US-040510.
PA   (CREA-) CREATIVE BIOMOLECULES INC.
PI   Cohen CM,  Kuberasampath T,  Oppermann H,  Ozkaynak E;
PI   Pang RHL, Rueger DC;
DR   WPI; 94-167392/20.
DR   P-PSDB; R54936.
PT   A morphogenically active protein MOP-3 - for inducing tissue
PT   morphogenesis in mammals
PS   Disclosure; Page 121-124; 164pp; English.
CC   A novel mouse morphogenic protein, OP3, has the sequence given in
CC   R54934, and is encoded by cDNA of sequence Q65390.  cDNA and protein
CC   sequences were also provided for human osteogenic protein OP1
CC   (Q65391, R54935), mouse OP1 (Q65392, R54936), human OP2 (Q65393,
CC   R54937) and mouse OP2 (Q65394, R54938), as well as the genomic DNA
CC   sequence of human OP2 (Q65395).  Generic sequences given in R54939-
CC   40 accomodate homologies between OP1, OP2, OP3 and other morphogen
CC   protein family members.
SQ   Sequence   1873 BP;    435 A;    582 C;    507 G;    349 T;


  Query Match             9.6%;  Score 34.2;  DB 1;  Length 1873;
  Best Local Similarity   58.3%;  Pred. No. 0.15;
  Matches   60;  Conservative    0;  Mismatches   43;  Indels    0;  Gaps    0;

Qy      61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
           || ||||  | |  |||   ||  ||||||  | ||   || | || |||      |  |
Db    1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy     121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
           | | ||||||  || || |||||  ||| | |||  |   |||
Db    1375 GACCACCATGTTTCTGTACTTCTTCAGGTCCACATTAGAGCTG 1333


RESULT   7
Q45163/c
ID   Q45163 standard; DNA; 1873 BP.
AC   Q45163;
DT   11-OCT-1994  (first entry)
DE   Murine OP-1.
KW   OP-1; OP-2; CBMP2; Vgl(fx); Vgr(fx); DPP(fx);
KW   GDF-1(fx); 60A(fx); BMP3(fx); BMP5(fx); BMP6(fx);
KW   osteogenic protein; morphogen; morphogenic protein;
KW   liver; regeneration; injury; cancer; integration;
KW   transplant; gene therapy; hepatic tissue; ss.
OS   Mus musculus.
FH   Key             Location/Qualifiers
FT   cds             104. .1396
FT                   /*tag= a
FT                   /label= OP-1
PN   WO9406449-A.
PD   31-MAR-1994.
PF   16-SEP-1993; U08808.
PR   16-SEP-1992; US-946238.
PR   04-MAR-1993; US-029335.
PR   31-MAR-1993; US-040510.
PA   (CREA-) CREATIVE BIOMOLECULES INC.
PI   Cohen CM,  Kuberasampath T,  Oppermann H,  Ozkaynak E;
PI   Pang RHL, Rueger DC,  Smart JE;
DR   WPI; 94-118148/14.
DR   P-PSDB; R50237.
PT   Use of morphogen(s) to induce liver regeneration - for repair of
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PT   injury, treatment of cancer etc., also to improved integration of
PT   transplant tissue, in gene therapy etc. .
PS   Claim 42-42; Page 129-132; 176pp; English.
CC   Morphogens comprising an amino acid sequence sharing at least
CC   70% homology with OP-1, OP-2, CBMP2, Vgl(fx), Vgr(fx), DPP(fx),
CC   GDF-1(fx), 60A(fx) are useful for maintaining liver function in
CC   a mammal, including means for regenerating lost or damaged hepatic
CC   tissue, means for enhancing viability and integration of hepatic
CC   tissue and organ transplants, and means for correcting liver function
CC   deficiencis, including means for enhancing diminished liver function
CC   due to tissue injury or disease.
CC   Use of BMP3(fx), BMP5(fx) and BMP6(fx) are included in the
CC   disclosure.
SQ   Sequence   1873 BP;    435 A;    587 C;    502 G;    349 T;


  Query Match             9.6%;  Score 34.2;  DB 1;  Length 1873;
  Best Local Similarity   58.3%;  Pred. No. 0.15;
  Matches   60;  Conservative    0;  Mismatches   43;  Indels    0;  Gaps    0;

Qy     61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
          || ||||  | |  |||   ||  |||||| | ||   || | || |||      | |
Db   1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy    121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
          | | ||||||  || || |||||  ||| | |||  |   |||
Db   1375 GACCACCATGTTTCTGTACTTCTTCAGGTCGACATTAGAGCTG 1333


RESULT   8
N80253/c
ID   N80253 standard; cDNA; 2944 BP.
AC   N80253;
DT   16-OCT-1990  (first entry)
DE   Insert of lambda 3 encoding beta-PAI protein.
KW   Endothelial plasminogen activator inhibitor; ss.
OS   Homo sapiens.
FH   Key             Location/Qualifiers
FT   cds             1. .1156
FT                   /*tag=  a
FT   signal_peptide  1. .12
FT                   /*tag=  b
FT   mat_peptide     13. .1153
FT                   /*tag=  c
FT                   product= beta-PAI
FT   polya_signal    2916. .2921
FT                   /*tag=  d
FT   polya_signal    1998. .2003
FT                   /*tag=  e
PN   WO8801273-A.
PD   25-FEB-1988.
PF   19-AUG-1987; U02053.
PR   19-AUG-1986; US-897990.
PA   (SCRI-) Scripps Clinic and Research Foundation.
PI   Loskutoff DJ, Ny T, Sawdey M;
DR   WPI; 88-063992/09.
DR   P-PSDB; P82007.
PT   Diagnostic assays for tissue - and urokinase-type plasminogen
PT   inhibitor - and pure, recombinant human endothelial plasminogen
PT   activator inhibitor.
PS   Claim 1; Fig 22; 100pp; English.
CC   The lambda 3 clone DNA or plasmid pPAI3 can be used to produce the
CC   t-PA inhibitor by recombinant DNA technology.  The protein can
CC   be used in a solid phase assay for detection of endothelial PAI,
CC   and as an immunogen to raise antibodies for use as receptor molecules
CC   in other assay systems.
CC   See also P80252-54.
SQ   Sequence   2944 BP;   734 A;   784 C;   728 G;   698 T;


  Query Match             9.4%;  Score 33.6;  DB 1;  Length 2944;
  Best Local Similarity   48.0%;  Pred. No. 0.27;
  Matches   96;  Conservative    0;  Mismatches  104;  Indels    0;  Gaps    0;

Qy     95 aaacacttgagggagcagataactgggccaaccatgactcagtgcttctggaggccaaca 154
          ||| |    ||| ||||||  | |||   |||  |  |  ||   |  ||  |  |||| |
Db   1854 AAAAATAAAAGGAAGCAGAAATCTGCTTCAATGAGTAAACAAGTCACCTACACTCCAAAA 1795

Qy    155 ggacttctgagtcatcctgtgggggtggaggtgggacaagggaaaggggtgaatggtact 214
            ||   ||    |  |   |||| ||  |  || || |  |   | ||          |
Db   1794 TAACCCATGCACACTGTTTCTGGGGAGGGAGATGGCCAGGCCAGGAGAGTTGGGCCACAT 1735

Qy    215 gctgattacaacctctggtgctgcctccccctcctgtttatctgagagggaaggccatgc 274
          | ||       |       ||| ||| |  | ||  | ||   | ||||  |||||
Db   1734 GATGGGGGACATTCACTCTGCCACCTGCAGCACCCCTGTACTGGGGAGGGGTGGCCAGTG 1675

Qy    275 ccaaagtgttcacagccagg 294
          ||| ||||  | | |  | |
Db   1674 CCACAGTGGACTCTGAGATG 1655


RESULT   9
Q06594/c
ID   Q06594 standard; DNA; 2132 BP.
AC   Q06594;
DT   27-FEB-1991  (first entry)
DE   Clone ECE3-1 sequence encodes Plasminogen Activator Inhibitor PAI-1.
KW   Plasminogen Activator Inhibitor; fibrinolysis; liver transplants.
OS   Homo sapiens.
FH   Key             Location/Qualifiers
FT   cds             76. .1284
FT                   /*tag=  a
FT                   /product=PAI-1 preprotein
FT   signal_peptide  76. .199
FT                   /*tag=  b
FT   3'utr           1282. .2132
FT                   /*tag=  c
PN   WO9013648-A.
PD   15-NOV-1990.
PF   08-MAY-1990; U02452.
PR   11-MAY-1989; US-350264.
PA   (DUPO ) DU PONT DE NEMOURS CO.
PI   Davis GL, Knabb RM, Reilly TM, Sisk WP;
DR   WPI; 90-361483/48.
DR   P-PSDB; R07986.
PT   New recombinant functional human plasminogen activator inhibitor
PT   - and plasmid expression vectors for its prodn. in E. coli, used
PT   for assays of T-PA PAI-1 inhibitors and treatment of excessive
PT   fibrinolysis
PS   Disclosure; Page 8; 49pp; English.
CC   The sequence differs from previously published sequences only in
CC   the 3'UTR, but encodes an identical protein sequence.
CC   A human umbilical cord endothelial cell cDNA library was screened
CC   with 4 oligonucleotide probes based on the known PAI-1 sequence. A
CC   2.1kb insert was identified in the most strongly positive clones.
CC   It was inserted into pTZ19R to give pECE3-1 with the sequence given
CC   here. To produce mature protein, the leader sequence
CC   was removed by partial digestion with ApaLI and NsiI of HaeIII-
CC   methylase treated pECE3-1 DNA. The resulting 1800bp fragment was
CC   attached to an adaptor (to restore the first 2, Met-Val, amino
CC   acids), digested with NcoI and inserted onto NcoI-PstI cleaved
CC   pKK233-2 to give plasmid ptAC-PAI. This expresses mature PAI-1 with
CC   the N-terminus Val-His-His which is useful in tests to identify
CC   inhibitors of its binding to tissue plasminogen activator. The
CC   protein is also used therapeutically to treat excessive or
CC   inappropriate fibrinolysis, eg. during liver transplant surgery.
CC   See also Q06590-Q06593 and R08411.
SQ   Sequence   2132 BP;    502 A;    616 C;    548 G;    466 T;


  Query Match             9.4%;  Score 33.6;  DB 1;  Length 2132;
  Best Local Similarity   48.0%;  Pred. No. 0.24;
  Matches   96;  Conservative    0;  Mismatches  104;  Indels    0;  Gaps    0;

Qy     95 aaacacttgagggagcagataactgggccaaccatgactcagtgcttctggaggccaaca 154
          ||| |    ||| ||||||  | |||   |||  |  |  ||   |  ||  |  |||| |
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```
Db   1985 AAAAATAAAAGGAAGCAGAAATCTGCTTCAATGAGTAAACAAGTCACCTACACTCCAAAA 1926

Qy    155 ggacttctgagtcatcctgtgggggtggaggtgggacaagggaaaggggtgaatggtact 214
          ||   ||     |  |  |||| ||  |  || || |   |  ||        |
Db   1925 TAACCCATGCACACTGTTTCTGGGGAGGGAGATGGCCAGGCCAGGAGAGTTGGGCCACAT 1866

Qy    215 gctgattacaacctctggtgctgcctccccctcctgtttatctgagagggaaggccatgc 274
          | ||      |       |||  ||| |  | ||  | ||   | |||||  |||||
Db   1865 GATGGGGGACATTCACTCTGCCACCTGCAGCACCCCTGTACTGGGGAGGGGTGGCCAGTG 1806

Qy    275 ccaaagtgttcacagccagg 294
          ||| ||||  | | |  | |
Db   1805 CCACAGTGGACTCTGAGATG 1786
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RESULT 10
T97303/c
ID Q28736 standard; cDNA; 1873 BP.
AC Q28736;
DT 26-FEB-1993 (first entry)
DE Murine osteogenic protein mOP1 coding sequence.
KW Morphogen; morphogenic protein; mouse; ss.
OS Mus musculus.
FH Key Location/Qualifiers
FT cds 104. .1396
FT /*tag= a
FT /standard_name= mOP1
PN WO9215323-A.
PD 17-SEP-1992.
PF 11-MAR-1992; U01968.
PR 11-MAR-1991; US-667274.
PA (CREA-) CREATIVE BIOMOLECULES INC.
PI Cohen CM, Kuberasampath T, Oppermann H, Pang RHL, Rueger DC;
DR WPI; 92-331475/40.
DR P-PSDB; R27290.
PT Compsns. for increasing progenitor cell population - contain a
PT morphogen to induce proliferation, useful for inhibiting
PT neoplastic growth, inducing tissue repair and in diagnosis of
PT tissue dysfunction
PS Disclosure; Page 98-100; 132pp; English.
CC Mature mOP1 is one of the preferred known morphogens which can be
CC used in the manufacture of pharmaceuticals for inducing non-
CC chondrogenic mammalian tissue growth, progenitor cell proliferation
CC and hepatic tissue growth and for maintaining the phenotypic
CC expression of differentiated cells in a mammal. Morphogens sharing at
CC least 70% homology with mOP1 are included. This coding sequence was
CC isolated from a mouse embryo.
SQ Sequence 1873 BP; 435 A; 586 C; 502 G; 350 T;

Query Match 9.2%; Score 32.6; DB 1; Length 1873;
Best Local Similarity 57.3%; Pred. No. 0.47;
Matches 59; Conservative 0; Mismatches 44; Indels 0; Gaps 0;

```
Qy     61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
          || ||||  | |  |||   ||  ||||||  | ||   || | || |||      |  |
Db   1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy    121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
          | | ||||||  || || |||||  |||   |||  |   |||
Db   1375 GACCACCATGTTTCTGTACTTCTTCAGGATGACATTAGAGCTG 1333
```

RESULT 11
Q28736/c
ID Q28736 standard; cDNA; 1873 BP.
AC Q28736;
DT 26-FEB-1993 (first entry)
DE Murine osteogenic protein mOP1 coding sequence.
KW Morphogen; morphogenic protein; mouse; ss.
OS Mus musculus.
FH Key Location/Qualifiers
FT cds 104. .1396
FT /*tag= a
FT /standard_name= mOP1
PN WO9215323-A.
PD 17-SEP-1992.
PF 11-MAR-1992; U01968.
PR 11-MAR-1991; US-667274.
PA (CREA-) CREATIVE BIOMOLECULES INC.
PI Cohen CM, Kuberasampath T, Oppermann H, Pang RHL, Rueger DC;
DR WPI; 92-331475/40.
DR P-PSDB; R27290.
PT Compsns. for increasing progenitor cell population - contain a
PT morphogen to induce proliferation, useful for inhibiting
PT neoplastic growth, inducing tissue repair and in diagnosis of
PT tissue dysfunction
PS Disclosure; Page 98-100; 132pp; English.
CC Mature mOP1 is one of the preferred known morphogens which can be
CC used in the manufacture of pharmaceuticals for inducing non-
CC chondrogenic mammalian tissue growth, progenitor cell proliferation
CC and hepatic tissue growth and for maintaining the phenotypic
CC expression of differentiated cells in a mammal. Morphogens sharing at
CC least 70% homology with mOP1 are included. This coding sequence was
CC isolated from a mouse embryo.
SQ Sequence 1873 BP; 435 A; 586 C; 502 G; 350 T;

Query Match 9.2%; Score 32.6; DB 1; Length 1873;
Best Local Similarity 57.3%; Pred. No. 0.47;
Matches 59; Conservative 0; Mismatches 44; Indels 0; Gaps 0;

```
Qy     61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
          || ||||  | |  |||   ||  ||||||  | ||   || | || |||      |  |
Db   1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy    121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
          | | ||||||  || || |||||  |||   |||  |   |||
Db   1375 GACCACCATGTTTCTGTACTTCTTCAGGATGACATTAGAGCTG 1333
```

RESULT 12
Q38945/c
ID Q38945 standard; cDNA; 1873 BP.
AC Q38945;
DT 21-JUL-1993 (first entry)
DE Mouse osteogenic protein 1 (mOP-1) gene.
KW Bone; loss; increase; fracture; post-menopausal; senile;
KW osteoporosis; hyperparathyroidism; skeletal microstructure defects;
KW chronic renal failure; kidney disease; osteomalacia, vitamin D;
KW deficiency-induced osteopenia, osteoporosis; Paget's disease;
KW bone mass; imbalance; resorption; formation; dialysis; calcium;
KW phosphate; metabolism; murine; ss.
OS Mus musculus.
FH Key Location/Qualifiers
FT cds 104. .1393
FT /*tag= a
FT /note= "mOP-1"
PN WO9305751-A.

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Db   1866 GATGGGGGACATTCACTCTGCCACCTGCAGCACCCCTGTACTGGGGAGGGGTGGCCAGTG 1807

Qy    275 ccaaagtgttcacagccagg 294
          ||| ||||  | | |  | |
Db   1806 CCACAGTGGACTCTGAGATG 1787
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PD 01-APR-1993.
PF 28-AUG-1992; U07432.
PR 30-AUG-1991; US-752764.
PR 30-AUG-1991; US-752857.
PR 30-AUG-1991; US-752861.
PR 31-JUL-1992; US-923780.
PA (CREA-) CREATIVE BIOMOLECULES INC.
PI Cohen CM, Kuberasampath T, Oppermann H, Ozkaynak E,
PI Pang RHL, Rueger DC, Smart JE;
DR WPI; 93-117208/14.
PT Use of morphogenic or in=vivo morphogenic-stimulating agent - to
PT prevent bone loss or increase, used for treating bone fractures,
PT post-menopausal or senile osteoporosis, hyperparathyroidism etc.
PS Disclosure; Page 110-113; 162pp; English.
CC The sequence is that encoding mouse osteogenic protein 1 (mOP-1) a
CC a morphogenically active protein which may be used as part of a
CC method for treating a bone fracture or a disease which causes or
CC results in bone fractures or other defects in skeletal
CC microstructure. Such diseases include chronic renal failure and
CC other kidney diseases, osteomalacia, vitamin D deficiency-induced
CC osteopenia or osteoporosis, postmenopausal or senile osteoporosis,
CC hyperparathyroidism and Paget's disease. The methods can be used for
CC protecting individuals at risk for loss of bone mass such as
CC postmenopausal females, aged individuals and individuals undergoing
CC dialysis. The loss of bone mass may result from an imbalance in bone
CC resorption or bone formation, an imbalance of calcium or phosphate
CC metabolism, a vitamin D imbalance or be nutritionally or hormonally
CC induced.
SQ Sequence 1873 BP; 435 A; 587 C; 501 G; 350 T;

Query Match 9.2%; Score 32.6; DB 1; Length 1873;
Best Local Similarity 57.3%; Pred. No. 0.47;
Matches 59; Conservative 0; Mismatches 44; Indels 0; Gaps 0;

Qy 61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
|| |||| | | ||| || |||||| | || || | || ||| | |
Db 1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy 121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
| | |||||| || || ||||| ||| ||| | |||
Db 1375 GACCACCATGTTTCTGTACTTCTTCAGGATGACATTAGAGCTG 1333

RESULT 13
Q38734/c
ID Q38734 standard; cDNA; 1873 BP.
AC Q38734;
DT 15-JUL-1993 (first entry)
DE Murine pro-OP-1.
KW morphogenic; osteogenic protein; developmental cascade; mOP-1;
KW mouse; inflammation; anti-inflammatory; Transforming Growth Factor;
KW TGF-beta super-family; hippocampus; ss.
OS Mus.
FH Key Location/Qualifiers
FT cds 104. .1396
FT /*tag= a
FT /standard_name= mOP-1
FT mat_peptide 977. .1393
FT /*tag= b
FT /note= "contains conserved 7 cysteine skeleton"
PN WO9304692-A.
PD 18-MAR-1993.
PF 28-AUG-1992; U07358.
PR 30-AUG-1991; US-752764.
PR 30-AUG-1991; US-752861.
PR 30-AUG-1991; US-753059.
PA (CREA-) CREATIVE BIOMOLECULES INC.
PI Cohen CM, Kuberasampath T, Oppermann H, Ozkaynak E;
PI Pang RHL, Rueger DC, Smart JE;
DR WPI; 93-100652/12.
DR P-PSDB; R33409.
PT Morphogen-induced modulation of inflammatory response - and
PT resulting tissue damage, e.g. in autoimmune diseases, diabetes,
PT asthma, ischemia reperfusion injury, etc.
PS Claim 26; Page 114-116; 165pp; English.
CC Osteogenic protein (OP)-1 is a preferred morphogen
CC for use in treating tissue damage in e.g. inflammatory disease,
CC autoimmune disease, arthritis, psoriasis, dermatitis, diabetes and
CC emphysema. Proteins having at least 70% homology with OP-1 amino
CC acid sequences can also be used. See R33399 for mature mOP-1.
SQ Sequence 1873 BP; 435 A; 588 C; 500 G; 350 T;

Query Match 9.2%; Score 32.6; DB 1; Length 1873;
Best Local Similarity 57.3%; Pred. No. 0.47;
Matches 59; Conservative 0; Mismatches 44; Indels 0; Gaps 0;

Qy 61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
|| |||| | | ||| || |||||| | || || | || ||| | |
Db 1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy 121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
| | |||||| || || ||||| ||| ||| | |||
Db 1375 GACCACCATGTTTCTGTACTTCTTCAGGATGACATTAGAGCTG 1333

RESULT 14
Q38858/c
ID Q38858 standard; cDNA; 1873 BP.
AC Q38858;
DT 13-JUL-1993 (first entry)
DE Morphogen mOP1 coding sequence.
KW Morphogen; homodimer; stimulate; proliferation; progenitor cell;
KW differentiation; growth; redifferentiation; transformation; human;
KW mouse; Drosophila; Xenopus; committed cells; hippocampus; ss.
OS Mus musculus.
FH Key Location/Qualifiers
FT cds 104. .1396
FT /*tag= a
PN WO9305172-A.
PD 18-MAR-1993.
PF 28-AUG-1992; U07359.
PR 30-AUG-1991; US-752861.
PA (CREA-) CREATIVE BIOMOLECULES INC.
PI Cohen CN, Kuberasampath T, Oppermann H, Ozkaynak E, Pang RHL;
PI Rueger DC, Smart JE;
DR WPI; 93-100993/12.
DR P-PSDB; R33932.
PT Screening cpds. to determine ability to modulate effective concn.
PT of a morphogen - by assaying test tissue type cells for parameter
PT indicative of a prodn. level change of morphogen
PS Disclosure; Page 90-92; 132pp; English.
CC This sequence encodes the murine morphogen mOP1, isolated from an
CC embryo. This morphogen is inactive when reduced but is active as an
CC oxidised homodimer and when oxidised in combination with other
CC morphogens. These morphogens are capable of stimulating proliferation
CC of progenitor cell, stimulating the differentiation of progenitor
CC cells, stimulating the proliferation of differentiated cells and
CC supporting the growth and maintenance of differentiated cells,
CC including the redifferentiation of transformed cells. These
CC morphogens may also be capable of inducing redifferentiation of
CC committed cells under appropriate environmental conditions.
SQ Sequence 1873 BP; 435 A; 589 C; 499 G; 350 T;

Query Match 9.2%; Score 32.6; DB 1; Length 1873;
Best Local Similarity 57.3%; Pred. No. 0.47;
Matches 59; Conservative 0; Mismatches 44; Indels 0; Gaps 0;

Qy 61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
|| |||| | | ||| || |||||| | || || | || ||| | |
Db 1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy 121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
| | |||||| || || ||||| ||| ||| | |||

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Db   1375 GACCACCATGTTTCTGTACTTCTTCAGGATGACATTAGAGCTG 1333


RESULT  15
Q56199/c
ID   Q56199 standard; DNA; 1873 BP.
AC   Q56199;
DT   15-AUG-1994  (first entry)
DE   mOP1 cDNA.
KW   Human; hippocampus; osteogenic protein; OP-1; subunit; dimer;
KW   morphogenic activity; cysteine; morphogen; family; pro-region;
KW   complex; soluble; aqueous solvent; therapeutic composition;
KW   symptom-alleviating; co-factor; antibody; diagnosis; assay;
KW   quantitate; mature; ss.
OS   Mus musculus.
FH   Key             Location/Qualifiers
FT   cds             104. .1396
FT                   /*tag= a
FT                   /product= mOP1
PN   WO9403600-A.
PD   17-FEB-1994.
PF   29-JUL-1993; U07189.
PR   31-JUL-1992; US-923780.
PR   04-MAR-1993; US-029335.
PR   31-MAR-1993; US-040510.
PA   (CREA-) CREATIVE BIOMOLECULES INC.
PI   Jones WK,  Kuberasampath T,  Oppermann H,  Ozkaynak E;
PI   Rueger DC, Tucker RF;
DR   WPI; 94-065689/08.
DR   P-PSDB; R47251.
PT   Morphogenic protein soluble complex - for regeneration of tissue
PT   in mammals and diagnosing tissue disorders
PS   Claim 3; Page 65-68; 120pp; English.
CC   This sequence encodes the murine derived protein osteogenic
CC   protein, mOP-1.  The mature OP-1 protein was used as at
CC   least one subunit in the dimeric protein of the invention.  This
CC   dimeric protein comprises a pair of protein subunits which are
CC   associated to give a structure with morphogenic activity.  Each
CC   subunit comprises more than 100 amino acids having a pattern of
CC   cysteine residues characteristic of the morphogen family.  Each
CC   subunit comprises a mature form of a subunit of a member of the
CC   morphogen family, non-covalently complexed with a peptide comprising
CC   a pro-region of a morphogenic family member, to form a complex more
CC   soluble in aqueous solvents than the uncomplexed subunits.  The
CC   dimeric protein is useful in a therapeutic composition, pref. also
CC   containing a symptom-alleviating co-factor.  The protein and
CC   corresponding antibody may be used in diagnostic assays, eg. to
CC   quantitate the amount of mature and soluble forms of morphogenic
CC   proteins produced.
SQ   Sequence   1873 BP;    435 A;    587 C;    501 G;    350 T;


  Query Match             9.2%;  Score 32.6;  DB 1;  Length 1873;
  Best Local Similarity   57.3%;  Pred. No. 0.47;
  Matches   59;  Conservative    0;  Mismatches   44;  Indels    0;  Gaps    0;

Qy     61 aagggtggaggcatgcagctgtgggggtctgtgaaaacacttgagggagcagataactgg 120
          || ||||  | |  |||   ||  ||||||  | ||   || | || |||      |  |
Db   1435 AAAGGTGTGGCCCCGCAAAGGTCAGGGTCTCAGGAAGAGCTAGTGGCAGCCACAGGCCCG 1376

Qy    121 gccaaccatgactcagtgcttctggaggccaacaggacttctg 163
          | | ||||||  || || |||||  |||   |||  |   |||
Db   1375 GACCACCATGTTTCTGTACTTCTTCAGGATGACATTAGAGCTG 1333


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